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# THE AGRICULTURAL • SITUATION •

JANUARY 1946

*A Brief Summary of Economic Conditions*

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AS the year 1946 gets under way, farmers are taking stock of their resources and sizing up the outlook for the future, to shape their operations to the needs of peace. As is shown by the production goals suggested by the Department of Agriculture for the crop year ahead, continued large production will be needed in 1946, although significant adjustments are indicated in some cases. These goals, it will be noted, are more selective than were those of wartime. They are goals for starting the transition from war to peace. Unlimited wartime demands are no longer in the picture. Instead, the need now is to maintain a level of production that will provide enough of the right kinds of agricultural commodities to supply our own people and those of the war-torn countries that are depending on us for help, and at the same time to make as many of the necessary changes to peacetime operation, farm by farm and area by area, as is feasible.

\* \* \*. The fall pig crop of 1945 was the third largest in at least 20 years. About 35 million pigs were saved in the period June-December, or 12 percent more than in that period of the year before and 21 percent more than the 1933-42 average.

# 1946 Agricultural Goals

**T**HE fifth year of agricultural goals for all major crops, livestock, and livestock products provide farmers with guide-posts in making their plans for 1946. The 1946 goals, more selective than during the war when too large production was almost impossible, point to a desirable production level for commodities and are designed to provide the right things in the right amounts so as to avoid shortages or surpluses. The suggested shifts among crops are designed to meet changing needs during this period of conversion from a full wartime to a full peacetime economy.

The 1946 goals call for a total acreage of over 356 million acres, not as large as the 1945 goals but above the acreage actually planted or grown in 1945. Livestock goals are nearly the same as 1945 numbers except in the case of poultry and dairy, which are not as large because of the decrease in military and lend-lease requirements.

The goals may be larger than some producers may have expected in view of the end of the war. However, the need for food in the war devastated areas is great. Also, the recommended goals are at a level which would provide a higher civilian per capita consumption than during the war. The production goals recognize these needs even though all the problems of getting food to the people needing it, such as financing and transportation, are not fully worked out. Allowance is also made for a margin of safety in case of adverse weather, as well as to build up or maintain reserve stocks.

The farm plant is geared to turn out a total volume of production about one-third greater than before the war. This was recognized in the 1946 goals. Recognition is also given to the need for restoring a better balance between soil-depleting and soil conserving crops. In the interest of maintaining soil fertility, some re-

duction in intertilled crops is called for. However the need for one more year of high production of certain commodities such as wheat, rice, flaxseed, and flue-cured tobacco means that complete reconversion to a peacetime pattern of soil management is not possible in 1946.

**Sugar.**—The largest percentage increase in goal acreages is for sugar beets—32 percent over the 1945 planted acreage—placed at what is believed to be the maximum productive capacity. This acreage of sugar beets, with average yields, should produce approximately 1.9 million tons of raw sugar. This, together with slightly over one-half million tons of raw sugar from domestic sugarcane, would contribute about 31 percent of domestic sugar requirements. Increased price support payments for these crops in 1946 was announced by the Department on August 1.

**Food grains.**—The goals for wheat, rye, and rice are maintained at a high level in view of relief needs. The wheat goal is placed at the 1945 acreage in the belief that we need one more big wheat crop. The rye acreage goal to be harvested for grain is 30 percent above the acreage actually harvested in 1945. The rice goal, somewhat below the 1945 acreage, is well above the 1937-41 average.

**Feed grains.**—Goals for feed grains—corn, oats, barley, and grain sorghums—are all at or slightly above 1945 acreages. Because food crops had first claim on the cropland during the war, production of enough feed for all the livestock and livestock products which could have been used was not possible. Carry-over stocks of feed grains at the end of the current feeding year will be below prewar levels. The feed grain goals provide for rebuilding these stocks by 1.9 million tons. A rate of feeding of livestock is calculated to continue at about 1,500 pounds of concentrates

per production unit. This is approximately the same as for 1945 and 9 percent above the prewar rate of feeding.

Besides adding to feed supplies, oats and barley constitute most desirable nurse crops for legumes and grasses, of which increased seedings are desired in future years.

Price supports will be in effect for corn since it is a basic commodity. Nonrecourse loans will also be available to farmers on oats, barley, and grain sorghums, based on the loan rate for corn and the relative feeding values of these grains to corn.

**Hay.**—The recommended goal for tame hay provides a slightly greater acreage per unit of roughage-consuming livestock than during the war years.

**Hay and winter cover crop seeds.**—Legume and grass seeds are essential materials in a program for increased acreages of hay and rotation pasture for feeding livestock and to build up soil resources. In shifting from wartime to peacetime production, larger quantities of legume hay seeds and winter cover crop seeds will be needed. The goals reflect this need.

**Oil crops.**—Because flaxseed imports are uncertain, an acreage of flaxseed as large as that planted in 1945 is requested. Supplies from such an acreage, together with expected imports, should provide for increased use of drying oils.

While immediate requirements for soybeans for oil are high, the goals call for a 13-percent downward adjustment in view of prospects of additional supplies from world sources by 1947 when most of the 1946 domestic crop will be crushed, and in recognition of the need to shift toward a better balance between intertilled crops, small grains, legumes, and grasses.

The goal for peanuts includes requirements for edible purposes only. This goal is 38 percent above the prewar 1937-41 average, although substantially below wartime levels.

Oil crops are Steagall commodities and they are required to be supported at not less than 90 percent of parity or the comparable price. Flaxseed producers have been assured an income of \$3.60 per bushel for flaxseed, Minneapolis basis.

**Vegetables.**—The goal for commercial truck crops for fresh market is 4 percent less than the 1945 acreage, but 6 percent above the 1937-41 average. The goal for vegetables for processing is 3 percent below the 1945 acreage, but is 34 percent above the 1937-41 average. Government requirements comprised about one-third of the pack in 1944 and in 1945 so that supplies for civilians were reduced. This goal is designed to replenish stocks.

The goal for Irish potatoes is 5 percent below the 1945 planted acreage and the 1937-41 average. The pronounced shift toward concentration of potato production in high-yielding areas permits production of needed amounts on a smaller total acreage. The sweetpotato acreage goal is 5 percent above the 1945 acreage and 1 percent above the 1937-41 average.

The dry edible bean goal is approximately the same as the 1937-41 average. The dry edible pea goal is reduced below the high levels during the war when large supplies were needed to supplement the supply of dry edible beans. The pea goal acreage, with normal yields, would furnish a production approximately double the needs for civilian consumption in this country, but relief needs are expected to absorb the increased output.

**Fiber crops.**—In establishing the cotton goal, an attempt was made to meet estimated requirements by qualities. Shifts which will tend to increase production of the higher grades and medium and longer staples are recommended.

The broomcorn goal is at the prewar 1937-41 average.

**Tobacco.**—The recommended acreages represent the directions and approximate degree of change needed for



the different types of tobacco, with 10 to 25 percent increases over the 1945 acreages asked for flue-cured, fire-cured, Maryland and cigar leaf, but a 10-percent decrease for Burley. Because the supply of Burley is adequate, a 1946 production considerably in excess of requirements might result in

excessive supplies, materially lower prices, and the need for rather drastic adjustments in marketing quotas after 1946.

**Dairy.**—The 120½-billion-pound milk goal, the same as the goal for 1945, is less than the all-time record of over 123 billion pounds in 1945 when

### 1946 Agricultural Goals, With Comparisons

Commodity	1937-41 average	1945 actual December summary	1946 goal* (National)	1946 goal as percent of —	
				1937-41	1945
Planted acres unless indicated otherwise					
<b>Food grains:</b>	<i>Thousands</i>	<i>Thousands</i>	<i>Thousands</i>	<i>Percent</i>	<i>Percent</i>
Wheat.....	69,311	67,781	68,875	99	102
Rye <sup>1</sup> .....	3,700	1,981	2,572	70	130
Rice.....	1,118	1,517	1,405	126	93
<b>Feed grains:</b>					
Corn.....	91,975	92,867	97,000	105	104
Oats.....	39,646	45,234	46,000	116	102
Barley.....	14,290	11,429	13,000	91	114
Sorghums, except sirup.....	17,070	15,666	16,600	97	106
<b>Oil and fiber crops:</b>					
Soybeans for beans <sup>1</sup> .....	4,121	10,873	9,500	231	87
Peanuts grown alone.....	2,361	3,958	3,250	138	82
Flaxseed.....	2,307	4,066	4,200	182	103
Cotton.....	26,357	18,157	20,000	76	110
Broomcorn.....	327	284	328	100	115
<b>Sugar:</b>					
Sugar beets.....	914	775	1,025	112	132
Sugarcane <sup>1</sup> .....	291	301	327	112	109
<b>Vegetables:</b>					
Truck crops for fresh market.....	1,731	1,901	1,827	106	96
Truck crops for processing.....	1,486	2,072	2,004	135	97
Potatoes.....	2,913	2,896	2,780	95	96
Sweetpotatoes.....	741	715	750	101	105
Dry beans.....	1,977	1,760	2,000	101	114
Dry peas.....	280	528	488	174	92
<b>Tobacco:</b>					
Flue-cured.....	925.4	1,078.3	1,161.9	126	108
Fire-cured.....	112.7	63.1	75.2	67	119
Burley.....	395.3	531.6	476.6	121	90
Dark air-cured.....	44.4	46.1	43.8	99	95
Other.....	136.3	126.8	148.7	109	117
<b>Total cultivated crops.....</b>	<b>284,529</b>	<b>287,607</b>	<b>295,838</b>	<b>104</b>	<b>103</b>
<b>Hay and seed crops:</b>					
Tame hay.....	57,197	59,905	60,000	105	100
Hay seeds <sup>2</sup> .....	(3,451)	(4,840)	(5,630)	163	116
Cover crop seeds <sup>3</sup> .....	182	355	406	223	114
<b>Total acres.....</b>	<b>341,908</b>	<b>347,867</b>	<b>356,244</b>	<b>104</b>	<b>102</b>
<b>Livestock numbers:</b>					
All cattle and calves, Dec. 31.....	67,407	<sup>4</sup> 80,200	78,600	117	98
Beef cattle, Dec. 31.....	31,602	<sup>4</sup> 40,600	39,200	124	97
Milk cows, average for year.....	23,575	<sup>4</sup> 25,700	25,507	108	99
Sheep and lambs, Dec. 31.....	52,101	<sup>4</sup> 44,800	44,800	86	100
Sows to farrow in spring.....	7,529	8,187	8,360	111	102
Spring pigs saved.....	46,771	51,570	52,000	111	101
Hens and pullets on farms, Jan. 1.....	376,577	<sup>4</sup> 469,161	408,063	108	87
Chickens raised on farms.....	656,464	<sup>4</sup> 821,353	680,000	104	83
Turkeys raised.....	30,723	<sup>4</sup> 44,150	39,700	129	90
<b>Total grain-consuming animal units, Dec. 31<sup>5</sup>.....</b>	<b>128,500</b>	<b>147,000</b>	<b>143,000</b>	<b>111</b>	<b>97</b>
<b>Livestock products:</b>					
Milk production (pounds).....	107,903,000	123,250,000	120,500,000	112	98
Egg production (dozen).....	3,252,000	4,577,000	3,910,000	120	85

<sup>1</sup> Harvested acres.

<sup>2</sup> Acreage part of tame hay acreage though listed separately; seeds include alfalfa; red, alsike, sweet and ladino clover; lespedeza.

<sup>3</sup> Seeds include hairy vetch, common and Willamette vetch, Austrian winter peas, crimson clover, common ryegrass.

<sup>4</sup> Preliminary.

<sup>5</sup> Indicated, not goal.

<sup>6</sup> Rough approximations (includes horses and mules).

\*Suggested, except wheat, rye, dry peas, and cover crop seeds, which are final.

favorable pasture conditions and high rates of feeding resulted in record production per cow. Need for some shifts in the utilization of milk and the kinds of products is recognized in these goals.

**Poultry and eggs.**—With more red meat available than last year, there will be a smaller outlet for chicken and turkey meat as well as for eggs. The goal for eggs produced in 1946 is 15 percent below 1945 output but 20 percent above the 1937–41 average. The goal for number of chickens raised is 17 percent below the number raised in 1945.

Egg prices, as well as prices for chickens and turkeys, will be supported at levels which will reflect a United States average farm price of 90 percent of parity.

**Meat animals.**—The goal for spring pigs of 52 million head is about equal to the 1945 crop and the average of the last 10 years. The present support price of \$13 for hogs is in effect until October 1, 1946. For the period from October 1, 1946, to September 30, 1947, the price of “good” and “choice” butcher hogs will be supported at an average of \$12, with seasonal differences in the level.

The goal for beef cattle in 1946 is for a total slaughter of about 35 million cattle and calves, and if attained would yield about 11.6 billion pounds of beef and veal. Such a slaughter would be

about the same as the all-time record in 1945. A slaughter of this number would reduce total cattle numbers to 78.6 million by the end of 1946, 3.6 million head below the record peak reached at the end of 1943 but 17 percent above the 1937–41 average.

The 1946 goal for sheep and lambs is for a total slaughter of about 20 million head compared with an expected slaughter of 24.3 million in 1945. Such a slaughter would leave sheep numbers at the end of 1946 about the same as the expected total at the beginning of the year, about 44.8 million head. The slaughter goal, therefore, is the maximum level of slaughter that can be permitted if the downward trend in sheep numbers now in progress is to be checked.

If farmers and ranchers meet the goal for pigs raised and the slaughter goals for cattle and calves and for sheep and lambs, total meat production in 1946 can be expected to equal the 22.6 billion pounds produced in 1945. This production would provide each civilian in this country about 150 pounds of meat for the year, with enough left over to take care of estimated requirements for military use and export.

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*Production and Marketing  
Administration*

## Commodity Reviews

### PIG CROP

**M**ORE than 35 million pigs were saved in the fall of 1945 (June–December), 12 percent more than were saved during that period of 1944 and 14 percent more than the average for 1934–43. The fall pig crop of 1945 was the fourth largest in at least 22 years.

The combined spring and fall pig crop of 1945 totaled 87 million head, only slightly more than the 1944 total, but 10 percent above the 1934–43 average.

A slight increase in the 1946 spring

pig crop above 1945 is indicated. On December 1, farmers intended to breed around 8.5 million sows for spring farrow. If these intentions are realized, and the number of pigs saved per litter is equal to the average for 1934–43, the 1946 spring pig crop would total around 52 million head, 2 percent larger than in 1945 and 19 percent above the average for 1934–43. The greatest relative increase from 1945 in the number of sows to farrow in the spring is indicated in the Eastern Corn Belt, where crop production was reduced sharply in 1944 and the 1945 pig crops were

comparatively small. A larger crop is indicated in all other major regions of the United States except in the North Atlantic States, where a smaller crop is in prospect.

Delayed marketings of the 1945 spring pig crop and the large fall crop promises a moderately larger supply of hogs for slaughter during the first 9 months of this year than in that period last year. With a slight increase in the 1946 spring pig crop in prospect, slaughter during the fall and winter of 1946-47 may be slightly greater than during the current season.

## WINTER WHEAT

**A**CREAGE of winter wheat seeded in the fall of 1945 totals 51,940,000 acres, 3.6 percent more than seeded in 1944. In only 2 years, 1937 and 1938, has winter wheat seeded acreage been larger than 52 million acres. The 10-year (1934-42) average is 46,757,000 acres.

In the eastern half of the United States, the acreage seeded for the 1946 crop is smaller than that seeded in the fall a year earlier, but the total in the western half is larger than in the fall of 1944. In the eastern half, land preparation and seeding were hampered by the delay in harvesting 1945 crops, rains in late September, and wet fields at the usual seeding dates. In the Great Plains and other States of the western half, increase in seeding was encouraged by good weather for seeding, favorable prices, a successful 1945 season and an increase in land available for wheat. The greatest decrease in acreage was in the North Atlantic and East North Central States, especially in New York, Ohio, Indiana, and Michigan, where late harvesting and wet fields prevented planting of all the acreage intended. Sizable increases occurred in the Southern Great Plains States. Greatest increases were in Texas, New Mexico,

Colorado, Montana, California, and the Pacific Northwest.

The condition of winter wheat on December 1 was reported lower than that of a year earlier, but above average.

A 1946 winter wheat production of about 751 million bushels is indicated. This would be approximately 9 percent below that of the preceding year, but 28 percent above the 10-year average. The indicated acreage that will not be harvested for grain is 11.4 percent of the total planted acreage, compared with 6.9 percent a year earlier, 12.1 percent in 1944, and the average of 17.3 percent.

## TRUCK CROPS

**A**GGREGATE tonnage of 25 commercial truck crops produced in 1945 for the fresh market was 6 percent larger than the record set in 1944 and 30 percent above the 10-year (1934-43) average. Aggregate production of 11 commercial truck crops for processing in 1945 was 31 percent larger than average, but was 4 percent less than 1944 production.

Record commercial production (for processing) of cabbage, cauliflower, celery, eggplant, lettuce, peppers, and tomatoes and near-record crops of snap beans and carrots contributed to the heavy tonnage this year. In addition, lima beans, cantaloups, sweet corn, cucumbers, Honey Ball melons, Honey Dew melons, shallots, and watermelons also produced heavier tonnages than in 1944. Compared with average, only artichokes, beets, Honey Ball melons and green peas were lighter crops this year.

The weighted average price per ton received by farmers for all commercial fresh market production in 1945 was about midway between the peak prices of 1943 and the lower prices received for the 1944 crops. The aggregate value of all 25 fresh market crops produced in 1945 exceeded that of any previous year of record.



In 1945 the weighted average price per ton received by farmers for 11 commercial truck crops for processing reached a new record high, about 4 percent higher than the previous record in 1944. Because of the reduced quantity produced, however, the aggregate value for 1945 was slightly less than for 1944.

## RYE

**A**CREAGE of rye sown for all purposes in the fall of 1945, totaling 3,721,000 acres, is 17 percent less than sown in the fall of 1944 and 41 percent less than the average. Seeded acreage includes that intended for pasture and hay, soil improvement purposes, as well as rye to be harvested for grain. An allowance also is made for spring seeding in States that grow spring rye.

The acreage in all States is materially less than sown in 1944, except in Colorado and Oregon where it is the same as in 1944 and in North Dakota,

## Index Number of Prices Received and Paid by Farmers

[1910-14=100]

Year and month	Prices received	Prices paid, interest, and taxes	Parity ratio <sup>1</sup>
1935-39 average.....	107	128	84
1940.....	100	125	80
1941.....	124	132	94
1942.....	159	150	106
1943.....	192	162	119
1944.....	195	170	115
1944			
December.....	200	171	117
1945			
January.....	201	172	117
February.....	199	172	116
March.....	198	173	114
April.....	203	173	117
May.....	200	173	116
June.....	206	173	119
July.....	206	173	119
August.....	204	173	118
September.....	197	174	113
October.....	199	175	114
November.....	205	175	117
December.....	207	176	118

<sup>1</sup> Ratio of prices received by farmers to prices paid, interest, and taxes.

## Prices of Farm Products

[Estimates of average prices received by farmers at local farm markets based on reports to the Bureau of Agricultural Economics. Average of reports covering the United States weighted according to relative importance of district and State]

Commodity	5-year average		Dec. 15, 1944	Nov. 15, 1945	Dec. 15, 1945	Parity price Dec. 15, 1945
	August 1909- July 1914	January 1935- December 1939				
Wheat (bushel).....dollars..	0.884	0.837	1.45	1.53	1.54	1.56
Rice (bushel).....do.....	0.813	0.742	1.83	1.83	1.81	1.43
Corn (bushel).....do.....	0.642	0.691	1.06	1.11	1.09	1.13
Oats (bushel).....do.....	0.399	0.340	0.694	0.679	.703	.702
Hay (ton).....do.....	11.87	8.87	16.50	14.90	15.40	20.90
Cotton (pound).....cents..	12.4	10.34	20.85	22.52	22.84	21.82
Soybeans (bushel).....dollars.	20.96	0.954	2.05	2.09	2.09	21.69
Peanuts (pound).....cents..	4.8	3.55	8.15	8.30	8.32	8.45
Potatoes (bushel).....dollars.	0.697	0.717	1.50	1.31	1.37	1.28
Apples (bushel).....do.....	0.96	0.90	2.33	3.08	3.34	1.69
Oranges on tree, per box.....	1.81	1.11	2.23	2.05	2.71	2.06
Hogs (hundredweight).....do..	7.27	8.38	13.40	14.20	14.20	12.80
Beef cattle (hundredweight).....do..	5.42	6.56	10.10	11.40	11.50	9.54
Veal calves (hundredweight).....do..	6.75	7.80	12.30	13.40	13.50	11.90
Lambs (hundredweight).....do..	5.88	7.79	12.30	12.80	12.90	10.30
Butterfat (pound).....cents..	26.3	29.1	51.0	50.3	50.5	50.7
Milk, wholesale (100-pound).....dollars.	1.60	1.81	3.38	3.37	3.40	3.09
Chickens (pound).....cents..	11.4	14.9	24.1	23.9	23.8	20.1
Eggs (dozen).....do.....	21.5	21.7	44.5	47.1	48.2	46.5
Wool (pound).....do.....	18.3	23.8	40.8	41.2	40.8	32.2

<sup>1</sup> Revised.

<sup>2</sup> Comparable base price, August 1909-July 1914.

<sup>3</sup> Comparable price computed under section

3 (b) Price Control Act.

<sup>4</sup> Comparable base price, August 1919-July 1929.

<sup>5</sup> Does not include dairy production payments made directly to farmers by county AAA offices.

<sup>6</sup> Adjusted for seasonality.

Montana, New Mexico, Utah, and California, where increases occurred. In North Dakota acreage increased 52 percent, after three successive years of decreases.

The condition of rye on December 1 was 83 percent of normal, 5 points below that of a year earlier and 7 points above the 10-year average. The condition of the crop is relatively more favorable, compared with average, in the Western States and in North Dakota, than in South Dakota, Nebraska, and other important rye grain producing areas.

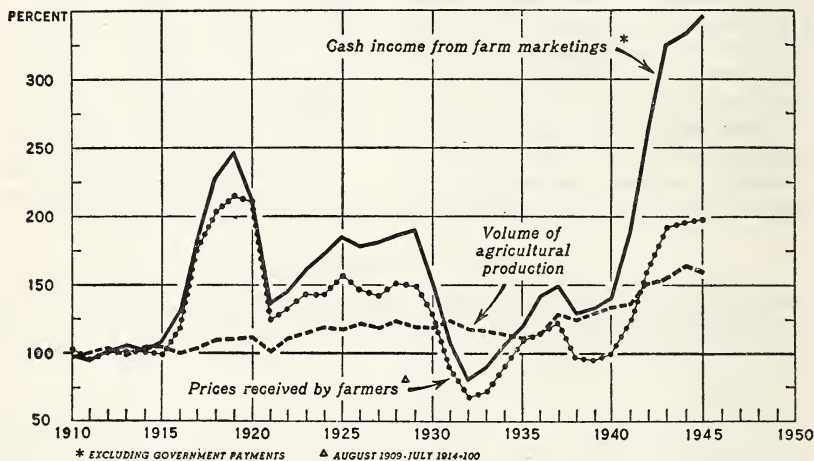
## FARM LABOR

AVERAGE number of workers on farms in 1945 was 9,843,000 persons, the smallest annual average on record. This total includes both family and hired workers. The average for 1944 was 10,037,000 workers.

On December 1, about 9,245,000 persons were engaged in farm work, compared with 9,337,000 on that date a year earlier. The number of hired workers employed on December 1 was 2,028,000, or 21 percent less than on November 1.

### AGRICULTURAL PRODUCTION, PRICES, AND INCOME. UNITED STATES, 1910-45

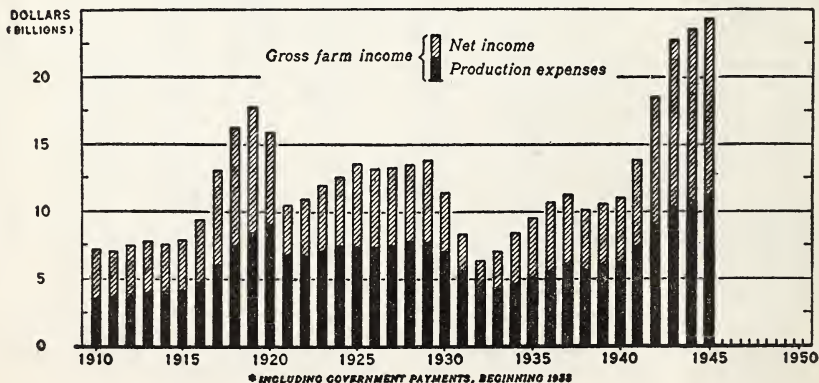
INDEX NUMBERS (1910-14=100)



U. S. DEPARTMENT OF AGRICULTURE

BUREAU OF AGRICULTURAL ECONOMICS

### GROSS FARM INCOME: NET INCOME AND PRODUCTION EXPENSES OF FARM OPERATORS, UNITED STATES, 1910-45\*



U. S. DEPARTMENT OF AGRICULTURE

BUREAU OF AGRICULTURAL ECONOMICS

# Farmers and International Trade

WHAT happens in international trade and to the future peace of the world is important to farmers—and to everybody else. This is particularly true since the invention of the atomic bomb. What nations do about international as well as internal economic affairs will in part determine whether or not peace is maintained.

The American farmer has a particular interest in international economic affairs. From 1900 to 1915 the prosperity of farmers was accompanied by reasonably full international cooperation between countries. In contrast, the farm depression of the 20's and 30's was associated with a drying up of world trade. Recovery by purely internal measures, while international trade and cooperation with other countries languished, helped get the world into another war.

Today there are great possibilities for the farmer, especially if there is close cooperation and trade with other countries. There will be increased demands on non-European producers of foodstuffs. But this is secondary to the mutual interest of all countries in world-wide prosperity.

At the moment these ideas seem visionary because of all the confusion that seems to exist in international affairs. Behind that apparent confusion there is a pattern, a plan. And everyone must stick to it so that there will evolve the cooperative, more prosperous and more peaceful world common men everywhere want.

## Planks for Peace

Benchmarks have already been nailed down as steps toward these ideals. The first plank in that platform is the reciprocal trade agreements. United States tariff rates have already been reduced one-third below what they were in 1939, and other countries have made correspond-

ing reductions on rates charged America. Authority has already been given to the President which would allow him to bring them down another third. This country is reducing its tariffs in exchange for compensating reductions by other countries. This legislative action reflects the fact that the great mass of people have changed their attitude about tariffs.

## Second Plank

The second plank is a series of international conferences to work out means for an expanding world economy. The first two of these were the Hot Springs Conference on Food and Agriculture held in 1943 and the Bretton Woods Conference on Trade and Finance held in 1944. The Food and Agriculture Organization<sup>1</sup> was set up in Quebec in 1945 as a sequel to the Hot Springs Conference.

The Bretton Woods Agreements proposed two international organizations. The International Fund would stabilize exchange rates throughout the world. The International Investment Bank would provide for long-term capital investments at low interest rates. Both would be directed at restoration of war damage and for the rebuilding and development of industrial facilities. These are necessary for those countries that have too many farmers and too few jobs—the same problem the United States faces in the underdeveloped regions of the South.

These proposals have been ratified by Congress. Other countries have been waiting for completion of the Anglo-American negotiations on loans to England. At Bretton Woods it was decided that the agreements should be ratified before the beginning of 1946 by enough countries to set up the two proposed international finance organizations. These two proposals were signed at Washington late last Decem-

NOTE.—This is a summary of a speech the author gave at the Twenty-third Outlook Conference at Washington.—Editor.

<sup>1</sup> A discussion of FAO appeared in the *Agricultural Situation* for December 1945.—Editor.



ber and the Fund and Bank soon will open for business.

The creation of a Social and Economic Council of the United Nations Organization was designed to serve as a general economic staff to coordinate the actions of all the specialized organizations already mentioned, plus others that have been or will be created to deal with economic, social and cultural matters. It goes way beyond the League of Nations which only had the International Labor Office and a small general economic staff.

### Third Plank

The third plank is an international trade organization of some sort which has not yet been discussed much. The first public utterance on it was the Charleston, S. C., speech in November 1945 by the Secretary of State from which the following quotations are taken:

"... we have been discussing with Great Britain the principles of commercial relations—principles we want to see applied to all nations in the post-war world... based on the conviction that what matters is not the buttressing of particular competitive positions but the increase of productive employment, the increase of production and the increase of general prosperity... world trade cannot be throttled by burdensome restrictions.

"We shall shortly submit to the peoples of the world our views about these matters.

"We intend to propose: that commercial quotas and embargos be restricted to a few really necessary cases, and that discrimination in their application be avoided.

"... that tariffs be reduced and tariff preferences be eliminated.

"... that subsidies, in general, should be the subject of international discussions, and that subsidies on exports be confined to exceptional cases, under general rules.

"... that Governments conducting public enterprises in foreign trade... give fair treatment to the commerce of all friendly nations...

make their purchases and sales on purely economic grounds... avoid using monopoly of imports to give excessive protection to their own producers.

"... that international cartels and monopolies be prevented, by international action, from restricting the commerce of the world.

"... that the special problems of the great primary commodities should be studied internationally, and that consuming countries should have an equal voice with producing countries in whatever decisions may be made.

"... that the efforts of all countries to maintain full and regular employment should be guided by the rule that no country should solve its domestic problems by measures that would prevent the expansion of world trade, and that no country will be at liberty to export its unemployment to its neighbors.

"We intend to propose that an international trade organization be created under the Economic and Social Council, as an integral part of the structure of the United Nations... that the United Nations call an international conference on trade and employment to deal with these problems."

It is hoped that this conference will be convened in 1946 and, perhaps, in the first half of 1946.

### Fourth Plank

The fourth plank is the steps that need to be taken to maintain domestic full employment. The full employment proposal now before Congress illustrates one type of action for this purpose. It hasn't had final approval, but has been under active discussion.

### Fifth Plank

A fifth plank might be positive steps needed here in this country to increase trade. The following are some of the positive steps that might be taken:

1. Provide bigger and better facilities to obtain factual information about exports.



2. Put as much energy into increasing imports as into increasing exports. Imports get dollars into foreign hands that foreigners need to buy from United States. The more imported the more it is possible to export.

3. Provide the necessary governmental agencies and programs to encourage tourist travel here and to make it more pleasant for Americans to travel abroad.

4. Provide technical aid to industrialization comparable to the technical aid which FAO will give to agriculture. It is commonly thought that helping other countries industrialize will reduce our markets. This is not true. Canada makes more of the same products as the United States than any other country in the Americas. It is this country's greatest competitor and the most industrialized outside of the United States in this hemisphere. Yet this nation of 11 million people before the war took more of American exports than all of the 130 million people living south of the Rio Grande put together. The reason is that Canadians have a high income per capita, compared to the mere \$25-\$50 per capita earned in a year by most Latin Americans. This high income was achieved through industrialization.

5. Coordinate trade policies between countries. This will help to get rational adjustment between the trade policies of different countries.

### America's Future Role

These five planks provide a forward-looking plan behind the apparent confusion of day-to-day operations. It does not answer all the questions by any means. It does not answer, for example, the questions of State versus private control of domestic industries in other countries. The same problem exists very strongly in the American economy, in the apparent conflict between central planning of annual production programs, with

price supports, parity prices, etc., in agriculture and unplanned free enterprise in industry.

Another conflict has to do with American effort to establish pretty free international trade. How is this to be coordinated with rather comprehensive government control of foreign trade and nationalization of many industries in many other countries? How will the operations of publicly owned or operated industries tie in with the operations of those run by private enterprise? The mixture of private and public control in and between countries and industries is a challenging one. However, the gap can be bridged by the measures outlined above.

A second danger can arise if United States fails to attain and maintain domestic full employment. For the next few years, heavy loans and exports may help maintain domestic full employment, but after a while maintenance of the same full employment will have to be based on both imports and exports.

Full employment here at home is one great step that United States can take toward world prosperity. This country dominates the world industrially. Its exports set the tone for the rest of the world. The more America buys, the more the rest of the world will buy from America.

Beyond maintaining domestic full employment is the responsibility for helping the other countries of the world recover and develop. This can be done easily from the vast financial and productive resources in this country. International trade will move a lot faster if we help other countries to get into production soon. This would be at a very small cost to United States and would involve only a small fraction of the energy exerted to win the war. It involves relief, loans, and funds for long-range development.

It is encouraging to note that the country seems united on foreign policy.

There is a general realization that (1) after the last war Americans turned their backs on the world and that (2) this must not happen again.

The proposals outlined here are a real plan, a pattern for peace which is more than mere vision. They are

something that the peoples of this country and other countries are determined to carry through and make work for the better, more prosperous and lasting peace everyone desires.

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## Research Ready for Farmers in 1946

**N**EW agricultural research, much of which can be applied by farmers in 1946, covers a wide range of subjects.

DDT, used so widely by the armed forces to control insect enemies of man, will get its first large-scale test by farmers this year. Experiments in many parts of the country for the last 2 years reveal that DDT will be useful in controlling Japanese beetles, Colorado potato beetles, potato leafhoppers, tomato fruitworms, pea weevils, and a number of other crop insects. Its use against flies and mosquitoes, as well as many other household pests, is already well known. DDT is not effective against Mexican bean beetles, several aphids, and common red spiders. It controls certain insect enemies of squash but is harmful to the plants.

### New Chemicals for Better Control

Last year's work also brought to light valuable new information on the application of insecticides. In the past, the use of liquid insecticides required the distribution of a considerable amount of water as a carrier for the active insecticidal material. New types of distributors break up the spray into a fine mist, giving good coverage on certain types of foliage with as little as 1 gallon of spray per acre. This new type of equipment makes practical the application of liquid insecticides from the air. Similar improvements have been made in the application of insecticides from the ground. These developments, together with the new aerosol method of

applying insecticides, give new impetus to insect control.

Besides DDT, another chemical with a long name, 2,4-dichlorophenoxyacetic acid—abbreviated to 2,4-D—will be ready for trial this year. Classed originally with the growth-regulating substances, this chemical was discovered to have unusual properties as a weed killer. Most of the experiments so far have dealt with weeds in lawns and pastures. But 2,4-D has the unusual property of killing such common weeds as broad-leaved plantain and dandelion without harming bluegrass and certain other lawn grasses. Experiments are continuing to determine to what extent 2,4-D will clear pastures of unpalatable weeds and leave the forage plants intact. Research also shows that this chemical is effective as a spray to prevent pre-harvest drop of apples and that it hastens the ripening of apples, pears, and bananas harvested green.

New knowledge of the value of nitrogen fertilizer for corn in sandy soils of the Southeast resulted from experiments in North Carolina last year. A common practice in that region has been to use about 200 pounds per acre of a complete fertilizer for corn, with yields averaging about 20 bushels an acre. Application of additional nitrogen gave surprising increases in yield. On one farm, yields increased from 19 to 107 bushels per acre where 120 pounds of supplemental nitrogen was used. The additional cost for fertilizer was but a small fraction of the value of the increased corn yield.

Tests to determine the effectiveness of penicillin against animal diseases have been encouraging. With the small quantities of penicillin made available for this purpose during the war, it was shown that the drug was fairly effective in controlling the principal organisms causing mastitis in cattle. Further investigations are under way, and it is possible that penicillin may be useful against other infective diseases of animals, though it will not, of course, ever eliminate the necessity for sanitary precautions.

### Improved Grain Varieties

New varieties of oats developed by the Department and several State experiment stations have in the last few years practically replaced old varieties in the North Central States. A still newer variety—Clinton—outyielded them all in tests in Iowa in 1945. The new variety is resistant to the rusts and smuts and has a very stiff straw, which is an advantage in harvesting. In 1943 only 23 pounds of Clinton oats were harvested. Rapid multiplication by plant breeders increased this to 65 bushels—more than 2,000 pounds—by April 1944. In August of that year 1,200 bushels (20 tons) were harvested. This year seed will be available to farmers for wide planting in the North Central States.

Seed of a new early-maturing variety of hard red winter wheat, named Wichita, developed by the Department and the Kansas Experiment Station, has been distributed in parts of Kansas, Oklahoma, and Texas. It will aid farmers who like to put part of their acreage in an early variety to distribute labor more evenly and to get relief from rusts, drought, and hail, which are likely to injure later varieties.

Midland, a sorghum released in 1944, has short, stiff stalks that enable the crop to stand for some time after maturity with very little lodging. The stalks are nearly free from the so-called "weakneck" character that causes those of many dwarf grain

sorghums to break over after maturity, resulting in considerable loss. Midland can always be harvested with a combine and thus requires less labor.

### Better Feeding Formulas

Feeding dairy cows a larger proportion of their total grain ration during the first third of the lactation period increased milk yield by 10 percent in experiments at three stations of the Bureau of Dairy Industry. The control groups received grain at a uniform rate throughout the lactation period. The greatest difference in yields was during the first part of the period, when milk production is normally greatest. An increase in milk production with the same amount of feed would obviously be profitable to dairymen.

A dried meal made from vegetable wastes that accumulate in large quantities at processing plants has shown considerable promise as a poultry feed. Leaf meal made from broccoli compared favorably with alfalfa meal in a test by the Delaware Agricultural Experiment Station.

### New Poultry and Swine Breeds

Breeding poultry to improve the market quality of eggs has chalked up some successful developments that can be applied by progressive poultrymen. Lines of chickens have been bred to produce eggs with stronger, less porous shells that resist breakage and deterioration better than ordinary eggs. Eggs of other new lines have a larger percentage of thick white than usual and consequently are better for poaching and frying. Infertile eggs that retain their table quality for 2 weeks at 100° F., near hatching temperature, are another result of poultry breeding research. Another new line of chickens lay eggs almost entirely free from blood spots.

The Beltsville Small White turkey, developed a few years ago to meet the demand for smaller turkeys with plenty of white meat, is turning out to be a good layer. Ordinary turkeys usually



lay 40 to 60 eggs during the spring months and few if any eggs during the rest of the year. Two of the Small White hen turkeys laid, in 1 year, 211 and 206 eggs, respectively. These were the record producers, but the egg production of the variety in the Department's stock is quite high.

Breeding experiments with swine promise more efficient pork producers. In trials involving the use of selected inbred boars, the Department, in cooperation with 13 State agricultural

experiment stations, has produced litters that weighed 100 pounds more at 6 months old than litters sired by noninbred boars otherwise of the same breeding. The experiments are still in progress, but the results so far indicate that establishment of inbred lines of desirable stock within breeds and then crossing such lines may have practical value for hog producers.

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## Jute Situation in the United States

**M**OST United States farmers recognize that jute is the fiber from which burlap bags are made. Less widely known is the fact that jute has been grown in India from time immemorial and textiles made from it have been used by native people since ancient times. Today as then, practically all commercially produced jute is grown near Calcutta in British India.

Although no jute is produced commercially in the United States, farmers are directly concerned with the jute industry. Jute is a most important packaging material for things both bought and sold by farmers. Also, jute competes directly with cotton, a most important cash crop. The competition between jute and other materials, including cotton, is greatest in the field of bags. There jute competes directly with many types of bags made from cotton, mainly of shorter staples and lower grades, and with the larger paper bags, especially the multi-walled paper bags.

### Large Prewar Consumption

During the last 5 years before the outbreak of World War II the total amount of jute consumed in the United States was one-fourth as great as the volume of cotton consumed in this country. During this period the annual net imports of jute and jute manufactures into the United States were equivalent on a pound-for-pound

basis to more than 1½ million bales of cotton.

During the war the domestic demand for jute (raw and manufactured) greatly exceeded the prewar demand. However, imports were not only greatly below requirements but, because of wartime developments, were much smaller than in the immediate prewar years. Consequently, the domestic use of cotton fabrics and of other packaging materials during the war increased to an even greater extent than the total of all packaging materials. To meet the increased wartime requirements for bags and other packaging material and to offset the reduced imports of jute manufactures, concerted efforts were made to expand the production of osnaburgs and sheetings for cotton bags and increase the production of paper bags. An attempt was also made to obtain a fuller utilization of used bags and to encourage users to bring their own containers, thus limiting the need for certain types of bags.

During the 5-year period 1934-38 imports of jute and jute manufactures into the United States averaged 794 million pounds a year. Domestic exports of jute manufactures, mostly in the form of bags, averaged about 17 million pounds during the same period, leaving an annual average of approximately 777 million pounds of jute and imported jute manufactures available for domestic consumption.



These data do not include the jute bags which enter or leave this country each year as containers for other products.

### Most Imports Manufactured

Of the average gross imports of jute and jute manufactures, 161 million pounds or 20 percent were unmanufactured jute, consisting of 129 million pounds of jute and 32 million pounds of jute butts; and 633 million pounds or 80 percent were jute manufactures. Of the latter, 513 million pounds was burlap. Imports of jute manufactures other than burlap were 22 million pounds of new bagging, 49 million pounds of waste bagging and sugar sack cloth, 42 million pounds of bags, and 7 million pounds of other products including webbing, padding, interlining materials, carpets, carpeting, mats, matting, and rugs. The data include the outlying possessions of the United States—Alaska, Hawaii, Puerto Rico, and the Virgin Islands. Because most of the bags imported were for use outside the continental United States, actually it was a net exporter of bags during the 5 years 1934–38.

### Packaging Farm Products Chief Use

A large part of the imported manufactured jute consumed is for packaging materials. Most of this in turn goes into bags, mainly for packaging agricultural products. Ordinarily, four-fifths or more of the imported burlap

consumed in the United States goes into the manufacture of bags and about three-fourths of the bags in turn are used for packaging products bought or sold by farmers. These are exclusive of the imports of manufactured bags, noted above, which are equivalent in weight to about 8 percent of the annual burlap imports. About three-fourths of the imported bags are for packaging sugar in Hawaii and Puerto Rico.

Of the approximately 20 percent by weight of jute and jute manufactures imported in the 5 years 1934–38, which is represented by raw jute, 80 percent was long fiber and the remainder, jute butts. Normally jute fiber is imported into the United States principally for use by the rug and carpet, twine, furniture, meat packing, and rubber industries. The principal peacetime uses for imported long fiber jute include wrapping twine; yarns for backing linoleum, rugs, and carpets; centers in wire ropes and cables; yarn and roving for use in insulating and packaging electrical cables and fuses; and reinforced papers. Jute butts are used largely in the manufacture of coarse yarns for making bagging material used to cover raw cotton. During the war period the scarcity of regular cordage fibers and the large rope requirements resulted in Government diversion of long jute fiber from rugs and carpets to the production of

Jute: Trade Position of the United States, Average 1934–38

Item	United States including possessions	Possessions <sup>1</sup>	Continental United States
	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
Imports for consumption, total raw and manufactured.....	793, 911	30, 621	763, 290
Jute manufactures.....	632, 627	30, 621	602, 006
Bags.....	41, 591	30, 528	11, 063
Other manufactures.....	591, 036	93	590, 943
Domestic exports.....	16, 993	147	16, 846
Jute manufactures.....	16, 993	147	16, 846
Bags.....	14, 552	139	14, 413
Shipments from United States to possessions.....	-----	4, 392	-4, 392
Jute manufactures.....	-----	4, 392	-4, 392
Bags.....	-----	3, 826	-3, 826
Net trade position <sup>2</sup> .....	776, 918	34, 866	742, 052
Jute manufactures.....	615, 634	34, 866	580, 768
Bags.....	27, 039	34, 215	-7, 176

<sup>1</sup> Alaska, Hawaii, Puerto Rico, and Virgin Islands.

<sup>2</sup> Imports minus exports plus shipments. This last factor will be a subtractor under "Continental United States," as it is a minus quantity.

substantial amounts of tent and other small size ropes. With the elimination of wartime controls, large quantities of raw jute will again be used in the rug and carpet industries.

In addition to agriculture's requirements for bags, large quantities of jute bagging material are required by agriculture for other types of packaging such as bagging for covering cotton bales. A domestic cotton crop equal to the average for the 5 years 1934-38 of nearly 12.4 million bales, if all covered with new common open-weave jute bagging, would require approximately 150 million pounds.

Actually, only about two-thirds of the cotton grown in the United States is covered with new open-weave material known as "jute bagging," most of the remaining cotton is covered with jute sugar-bag cloth. During the 5-year period 1934-38 it is estimated that the average annual imports of new jute bagging for cotton bales were enough for about one-fifth of the bales which were covered with this jute bagging. The remaining three-fourths of the cotton covered with the open-mesh jute bagging were covered with domestically produced bagging made of new and rewoven jute.

### **Much Cotton Also Used for Packaging**

In addition to the jute used for packaging agricultural products, large quantities of cotton textiles are also used. On the basis of 1941 packaging

practices, it is estimated that the yardage of cotton goods required for bags was about 90 percent as large as the yardage of burlap so used. Cotton fabrics most commonly used for bags are sheeting, print cloths, and osnaburgs.

Large numbers of second-hand bags are in use at any given time. Exact information as to the proportion used bags are of the total bags in use is not available, but one trade survey made about the time of Pearl Harbor indicated that approximately 40 percent of the bags in use at a given time are normally second-hand.

During the war the total demand for packaging materials was so strong that all jute, cotton, and paper bags found a ready market irrespective of price differences. Although this may continue for a time, price will eventually again take on its traditional role in the determination of which alternative product will be purchased. The shipping situation and other conditions will be such that jute manufactures will likely be imported in quantities equal to or in excess of prewar levels. The prices of such imported goods may well exceed those prevailing immediately before World War II, but probably not to the extent that prices of domestic cotton packaging materials will.

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## **Credit Available for Farm Housing**

WITH farmers generally in a better financial position than for a long time, many are thinking of better homes for their families. Surveys in recent years reveal a great deal of interest in rural home improvement. One made a year ago among moderately well-to-do farmers reports that 1 in every 12 of these families intended at that time to build or buy a new house, when restrictions were lifted. And a larger proportion of rural families plan to remodel or repair old houses.

While some farmers will use their savings to build or buy new houses, or remodel or repair old ones, the large majority of those in good financial condition probably will use credit from individuals, banks, insurance companies, and the Farm Credit Administration. Of interest in this connection is the recent amendment to the Federal Farm Loan Act which

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NOTE.—This article is based largely on a speech the author gave at the twenty-third Outlook Conference at Washington.—Editor.

permits Federal land banks to lend up to 65 percent of the normal value of a farm, including improvements.

In addition to measures now authorized, proposals are being considered under which the Secretary of Agriculture would be authorized to make loans to owners of farms for the purpose of providing decent, safe, and sanitary dwellings, to be accomplished by construction, repair, alteration, or replacement. Eligible occupants of such dwellings would be owners, tenants, sharecroppers, or laborers. Seasonal workers would be given facilities through loans to owners or groups of owners. Rentals of seasonal properties would have to be approved and prevailing wages would have to be paid to the seasonal occupants.

Loans would be limited to owners of farms who cannot elsewhere receive the necessary credit on comparable terms. Apparently, almost every farmer lacking adequate housing might be construed as eligible because the interest rate would be 3 percent, a rate rarely available from other sources. Loans could not exceed 40 years and so far as the law is concerned they could be junior liens. The amortization schedules would provide some flexibility, as in good times prepayments would be required and in bad times reduced payments would be permitted.

Funds for this program under the current proposal would come from the RFC in such sums as might be appropriated from year to year.

A proposal has also been made to amend the United States Housing Act of 1937. It would authorize the Federal Public Housing Authority to make long-term loans and grants to local public agencies. These agencies would be expected to construct rental housing for families who have incomes so low that they would not benefit from the other program for loans to farm owners. Houses so built on farms by local public agencies would be rented

to operators or laborers, with an option to purchase. Rentals would be adjusted from year to year according to family need and income. The Federal Government would make up any difference between the cost of providing housing and the amount families can afford to pay. This would be done by annual contributions which may not exceed 50 million dollars per year.

To farmers in all degrees of financial condition one of the most important phases of the proposal under discussion is that of establishing technical services. The Secretary of Agriculture would be authorized to furnish technical services either for a fee or free of charge. It would be possible not only to furnish the farmer with building plans, specifications, and other advice and information but also architectural supervision and inspection of construction. Farmers who try to do their own remodeling or building would have competent direction. Farmers who hire their construction work would have adequate plans with which to start, would be able to obtain architectural supervision of the job at no more than a reasonable fee, and would be assured adequate inspection.

It might even be possible for lenders to utilize the services of the Government architects to serve as inspectors of property before closing a loan. Such services might be available on a reimbursable basis.

The Department of Agriculture and the National Housing Agency would be authorized jointly to carry on technical research. Facilities of State agencies and educational institutions might also be employed.

### **Credit for Tenant Housing**

Even though the average farmer may be in a strong financial position, hundreds of thousands of farmers have but meager resources. The present public policy is to encourage farm and



home ownership by the operators themselves, and the Bankhead-Jones Farm Tenant Act serves this public objective. As a byproduct the Farm Security Administration at the end of 7 years of operation under this law had financed about 15,000 new houses. About an equal number had been improved and repaired.

New proposals are to not only permit tenants to use the loan funds for buying farms, but would authorize the use of funds by present owners for enlarging farms to an efficient size and for improving existing structures. If liberalization of existing law should be accompanied by increased appropriations for loan funds, the construction and improvement of farm houses would be stimulated.

### **Veterans' Benefits**

Veterans in general, like many farm tenants, lack adequate financial resources to buy a farm home. The Servicemen's Readjustment Act of 1944 (the "GI bill") includes provision for a Federal guarantee of loans. Loans for farming operations, including the farm house, are eligible for the Federal guarantee. The Federal guarantee to a lender covers 50 percent of a loan provided the guaranteed portion does not exceed \$2,000. For real estate loans, the guarantee has been increased recently to \$4,000.

By the first of November, according to the Veterans' Administration, some 600 loans aggregating nearly three-quarters of a million dollars had been approved for farm operations. Presumably some of this credit was used for housing.

### **Construction Service of Cooperatives**

The development of improved marketing services may be the contribution of farmers' cooperative purchasing and supply associations. Some of these associations and their federated regional organizations have made a start in this direction. Many purchasing associations of farmers now sell certain

building supplies such as cement, plasterboard, and metal siding. The Farmers Union Grain Terminal Association of Minneapolis operates a chain of lumber yards. Several regional associations hold controlling interest in a shingle mill situated in British Columbia. The Fruit Growers Supply Co. has a heavy investment in sawmills and timber in California. The Indiana Farm Bureau Federation owns three lumber mills in Arkansas, together with timber acreage. In Indiana, farm service shops operated by cooperatives are not only repairing farm and household equipment but are even building houses. The Ohio Farm Bureau Federation is moving in the same direction.

The cooperatives appear to be moving toward a fuller integration and rationalization of supply and construction services. Within the next decade or so there is the possibility that a Nation-wide farmers' cooperative construction service may be developed.

The rural electrification program has gone far toward bringing electricity to the farmer, but in other respects farm construction has not kept pace with modernizing of urban structures. The situation is emphasized by comparison of farm housing with urban housing as to sanitary facilities, equipment, state of repair, and overcrowding.

The improvement of farm housing cannot be achieved by any one approach. Loans to some at rates which cover all costs, loans to others at rates requiring some governmental assistance, outright grants to the needy, technical services and guidance available to all classes of farmers, cooperative construction services, research with State and Federal support—all these and more may be required before most farmers live in decent, safe, and sanitary dwellings. Comfortable and modernized dwellings also should be obtained by an increasing number of farmers.

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# Trends in Apple Production and Utilization

THE old saying: "as American as apple pie" has, perhaps, been heard around the world more often than any other gustatory remark. Yet, the main ingredient, the apple, is American only by adoption. Unlike tobacco and other famous native products, all of the apple varieties now grown, except those stemming from the native crab apple, originated from seeds and trees brought from other parts of the world, mainly Europe.

From these importations many years ago the apple has developed into one of the leading agricultural products of the country. During the past 5 years an average of over 115,000,000 bushels a year were produced in commercial areas, with an annual value of close to \$170,000,000. Before the war apples were an important agricultural export item, and, curiously enough, Europe was the chief customer.

Apples have enjoyed a long tradition in America as one of the favorite fruits. The earliest colonists planted apple seeds and trees and by the beginning of the nineteenth century virtually every farm in the northern two-thirds of the Nation had an apple orchard. When the country began expanding westward Johnny Appleseed and other frontiersmen planted apple seeds ahead of the settlers so that the end of the nineteenth century found apple trees growing from coast to coast.

Through this process many new varieties were developed with desirable characteristics. In the last few decades science has improved on these varieties. Now some trees have exceptional winter-hardiness, some apples have long-storing qualities, some are better for eating raw, some for cooking, and others for processing. Although several hundred varieties are important in local areas, the bulk of commercial production consists of less than two dozen varieties. And of these latter, the following seven make

up almost two-thirds of the commercial crop: Delicious, Winesap, McIntosh, Jonathan, Stayman, Rome Beauty, and York Imperial.

The trend of apple production was upward until about the turn of this century. From the early 1900's until the severe winter of 1917-18 which killed many trees in the East, the level of production remained fairly constant, about 175,000,000 bushels a year, but since then the trend has been moderately downward. This declining trend was halted, at least temporarily, during the past 4 years, largely because of better orchard care stimulated by higher prices. Besides these long-time changes, production has varied greatly from year to year, mostly because of variations in weather.

## Large Regional Shifts

Regionally, apple production trends in the different important producing areas have varied significantly from the trend for the country as a whole. New York was the leading apple State until the early 1920's when Washington took the lead. In New England and New York—the oldest apple area—production increased until the early 1900's and declined sharply following the freeze damage in the winter of 1917-18. Losses were especially heavy in Baldwins, the predominant variety in this section. Production has declined moderately since the early 1920's. In the Central States peak production was reached about the turn of the century and has declined gradually since then. The level of production in the Shenandoah-Appalachian area has changed little since about 1910, although production has varied greatly from year to year. In the West, large plantings prior to World War I came into commercial bearing in the early 1920's, and a peak production was reached in the late 1920's and early 1930's. There is less year-to-year variation in

production in the West than in the East.

The production of high quality fruit to meet the discriminating demands of present day markets requires specialized knowledge and skills. Commercial growers give trees better care and increase the proportion of better grades of apples as well as production per tree. Apple production has gradually shifted from the predominantly small farm orchard type of production of the late 19th century to the predominantly commercial production of today. The shift was greatest in the Eastern and Central States. Production in the West was established mostly on a large-scale commercial basis from the start. The importance of commercial production is indicated by 1939 census figures which show that 3 percent of the United States' apple farms reported 59 percent of the apple trees and 75 percent of the production. And there probably has been some further increase in the proportion of apples produced on the larger commercial farms since 1939.

#### Over Half for Fresh Use

Since 1934, fresh sales have varied from 60 to 70 percent of commercial

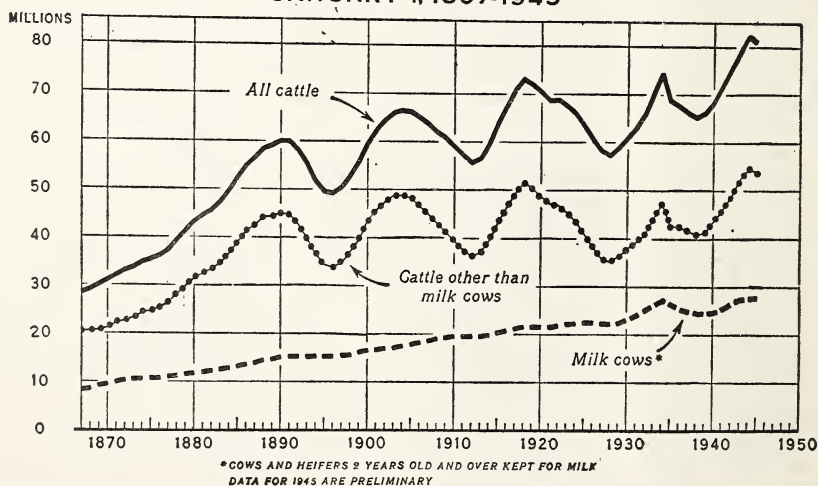
production, with a greater proportion usually sold fresh in years of small crops. Fresh sales of apples comprise a larger proportion of the total crop than those of any other major fruit except oranges and lemons. This is due partly to the long harvest season for apples, but primarily to the long winter storage period of many of the best varieties.

Varying somewhat with the size of the crop, an average of about 6½ million bushels of apples are utilized on farms where grown for table use, canning, preserving, cider and vinegar. For the United States as a whole, about 5 percent of the commercial crop ordinarily is used on farms where grown.

#### Proportion Processed Increasing

Quantities of apples utilized for commercial processing vary from year to year, depending on the size of the crop. In most years about a fifth of the crop has been processed. However, in 1941 and 1942 more than a fourth of commercial production was processed primarily as a result of government programs and improved returns from processing outlets. Processing of apples is an important in-

**ALL CATTLE: NUMBER ON FARMS, UNITED STATES,  
JANUARY 1, 1867-1945**



dustry in New York, Pennsylvania, Virginia, West Virginia, Michigan, Washington, Oregon and California.

The amount of apples used for canning has averaged about 7 percent of commercial production since 1934. The quantity varies widely from year to year depending largely upon the relative size of the crop in the sections having canning facilities. The largest quantity canned since 1934 was 12,338,000 bushels from the 1941 crop. The lightest canning season was from the 1938 crop—only 4,807,000 bushels. New York and Pennsylvania are the most important States in the canning of apples and since 1934 an average of almost 2,000,000 bushels per year were canned in each of these States. The two next most important States are Virginia and Washington.

The quantity of apples used for drying, including dried chops later used for apple butter, also varies widely from year to year, but to a less extent than for canning. Since 1934, apples processed in drying plants have varied from 9,146,000 bushels in 1935 to 4,268,000 bushels in 1940. The principal drying sections are the Sebastapol and Watsonville districts of California, the Yakima and Wenatchee Valleys of Washington, western New York, and the Winchester area of the Shenandoah Valley in Virginia. Drying has been developed in important commercial areas partly to provide an outlet for surpluses in seasons of large crops and partly as a reasonably profitable means of marketing fruit regularly.

Other processing outlets have increased moderately during the past 10 years from an average of about 10 percent of production, or about 12 million bushels during the 6-year period 1934-39 to an average of about 12 percent of production or about 14 million bushels during the 6 years 1939-44. This is largely the result of increased quantities of apples being used for freezing, apple butter, and apple juice. Production of apples for freezing has in-

creased sharply during the past few years. From the 1944 crop, 2½ million bushels or 2 percent of the crop was so utilized. This is about 2½ times the quantity frozen in 1943. Apple pie being the most popular American dessert, pie bakers and restaurants are using large quantities of frozen apples as well as fresh apples out of storage for this use. Retail consumers are also using large quantities of frozen apples and apple sauce. Vinegar products are an important utilization of apples, especially in large crop years.

### **Normally Exports Are Big**

From the early 1920's until the outbreak of World War II, the export market was an important outlet for American apples. Exports varied greatly from year to year, with the total generally large in years of heavy production and small in short-crop years. The 1926 crop of 230 million bushels was the second largest of record with the record quantity of 21 million bushels of fresh apples exported. But of the short 1936 crop of 117 million bushels only 6.8 million bushels of fresh apples were exported. Important quantities of U. S. apples also have been exported as dried and canned apples. In terms of fresh-equivalent (fresh plus dried plus canned) exports totaled 26.6 million bushels in 1926 and 10.6 million in 1936. Following World War I exports did not reach large volume until 1923.

In the years immediately preceding World War II exports of fresh apples totaled 7 million bushels in 1936, 11 million in 1937, 12 million in 1938, and only 3 million bushels in 1939. In terms of fresh equivalent apples (fresh plus dried plus canned) exports amounted to 11 million bushels in 1936, 16 million in 1937, 18 million in 1938, and 6 million in 1939. During the war years commercial exports were very small but, of course, large quantities of apples were purchased by governmental agencies for the armed forces and lend-lease.



Before the war the United Kingdom was the leading importer, and continental Europe was the next best customer, both taking about nine-tenths of this country's exports. Chief competitors in the European market were Canada in the fall and winter and Australia and New Zealand in the spring and early summer months. The

re-entry of United States apples in appreciable volume into foreign markets may depend largely upon arrangements for financing purchases, trade agreements and relative prices.

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## More Production With Less Labor in Vermont

**D**ESPITE a 1944 labor force on Vermont farms 7 percent smaller than 1942, production per farm was 7 percent larger and production per man was 15 percent greater.

These conclusions are based upon a study of 137 representative Vermont farms to determine changes that have taken place in the size, composition, and accomplishments of the labor force during the April to October cropping periods of 1942, 1943, and 1944.

An average of  $3\frac{1}{2}$  persons per farm worked at some time during the 6-month period of 1944. Some of these workers were employed for only a few days or weeks; and some were unable to do the work of an able-bodied man. Thus this average number of workers was equivalent to about  $1\frac{1}{2}$  full-time men working for the cropping period.

Accompanying the change in size was an important change in composition. Only one-half as many regular hired men were employed in 1944 as in 1942. Such a reduction caused a 13 percent decline in the size of the regular labor force—those persons who worked on a fairly definite schedule throughout the 6-month period. The average number of regular workers per farm was equivalent to  $1\frac{1}{2}$  full-time men. Of this amount, the operators and their families provided 86 percent; 14 percent was furnished by hired workers.

Part of the decline in the amount of regular labor was offset by the use of more extra labor, especially during

seasons of peak need such as haying or silo filling. Generally, extra labor was hired, but in some cases members of the family were able to take over the extra work. Several operators who ordinarily worked off the farm used their vacation time in summer to do their haying. Wives or children, who did no farm work regularly or worked only a few hours daily, worked full time during haying or silo filling. The average number of extra workers per farm was equivalent to one-third of a full-time man. Of this amount, 54 percent was hired; 46 percent was provided by family workers.

Although the labor problem varied with each farm, generally farmers with large dairies had few changes in their labor force. In contrast, many farmers with medium-sized herds lost regular hired men but made up this loss by using more extra workers, while operators with small dairies had a 20-percent smaller labor force in 1944 than in the same period in 1942. Frequently, these farmers reduced the size of their dairies and worked more hours off the farm.

Wage data indicated that farmers having large dairies paid higher monthly wages per man equivalent than did farmers having medium or small herds. This may explain, in part, why there was little labor change on large farms. The difference between the wages paid by the various groups could have occurred by chance one time in three farms. However, the differences might well have been statistically significant if more cases



had been studied. In contrast to differences in monthly wages, average daily or weekly wage rates on farms with large, medium, or small herds were very similar.

### Greater Output Per Worker

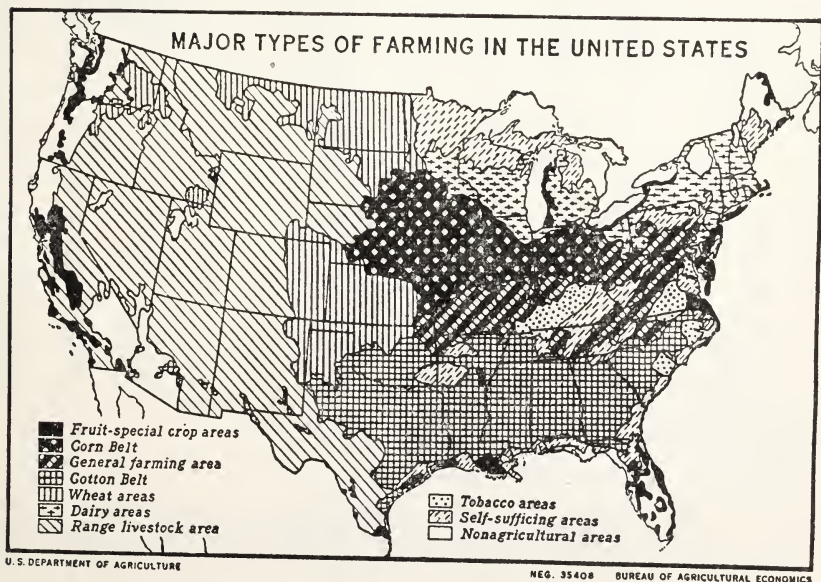
In spite of less labor, the 137 operators increased their production. Using productive work units as a measure, production per farm was 7 percent larger in 1944 than in 1942. Increases came about largely through greater output per worker. Only on farms with less than 10 cows did average output per man decline. On these farms, the number of cows was reduced by 27 percent.

To indicate the relationship between production and available labor, three groups of farmers were studied—those who made large increases in production, those who made large decreases, and finally, those who made very little change. Farmers who made large increases in production between the 1942 and 1944 crop periods did so largely by increasing output per man. Where large decreases occurred, frequently the operators had been using labor very

effectively and when labor was lost or an emergency arose, the workers could not carry the extra burden, and production was lower. On farms that made little change in production between 1942 and 1944, there usually was sufficient reserve in the labor force to meet situations such as sickness, loss of hired labor, and some expansion of enterprises. On about two-thirds of these farms, this reserve was called upon during the war period; on the remaining third, the reserve was not used and an actual increase in the labor force took place.

Many of the changes resulting in increased efficiency of workers will be continued after the war. The scarcity of help has stimulated labor saving methods and practices. Some additional machines have been added and there is now a strong demand for machines and equipment once they become available. Farmers who continue notable advances in the efficiency of labor through improved practices, will be in a more favorable position in the postwar period.

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# Economic Trends Affecting Agriculture

Year and month	Industrial production (1935-39 = 100) <sup>1</sup>	Income of industrial workers (1935-39 = 100) <sup>2</sup>	1910-14=100				Index of prices received by farmers (August 1909-July 1914=100)			
			Wholesale prices of all commodities <sup>3</sup>	Prices paid by farmers		Farm wage rates	Livestock and products			
				Com-modities	Com-modities interest and taxes		Dairy products	Poul-try and eggs	Meat ani-mals	All live-stock
1910-14 average.....	58	50	100	100	100	100	100	101	101	101
1915-19 average.....	72	90	158	151	150	148	148	154	163	158
1920-24 average.....	75	122	160	161	173	178	159	163	123	142
1925-29 average.....	98	129	143	155	168	179	160	155	148	154
1930-34 average.....	74	78	107	122	135	115	105	94	85	93
1935-39 average.....	100	100	118	125	128	118	119	109	119	117
1940-44 average.....	192	234	139	150	148	212	162	146	171	164
1941.....	162	169	127	131	132	154	139	121	146	140
1942.....	199	241	144	152	150	201	162	151	188	173
1943.....	239	318	151	167	162	264	193	190	209	200
1944.....	235	329	152	176	170	315	198	174	200	194
1944-December.....	232	326	153	178	171	-----	203	211	198	202
1945-January.....	234	326	153	179	172	324	202	199	203	202
February.....	236	324	154	179	172	-----	200	183	209	201
March.....	235	322	154	180	173	-----	198	175	211	200
April.....	230	314	154	180	173	335	194	176	215	201
May.....	226	302	155	180	173	-----	192	179	217	202
June.....	220	301	155	180	173	340	191	189	216	203
July.....	211	287	155	180	173	362	192	197	215	205
August.....	187	260	154	180	173	-----	195	207	212	206
September.....	171	223	154	181	174	-----	197	201	207	203
October.....	163	217	155	182	175	355	199	204	202	202
November.....	171	221	156	182	175	-----	202	213	203	206
December.....	-----	-----	-----	183	176	-----	204	222	204	207

December.		Index of prices received by farmers (August 1909-July 1914=100)							Parity ratio <sup>4</sup>	
Year and month	Crops							All crops and live-stock		
	Food grains	Feed grains and hay	Tobacco	Cotton	Oil bearing crops	Fruit	Truck crops			All crops
1910-14 average	100	101	102	96	98	99	-----	99	100	100
1915-19 average	193	164	187	168	187	125	-----	168	162	106
1920-24 average	147	126	192	189	149	148	143	160	151	86
1925-29 average	140	119	172	145	129	141	140	143	149	89
1930-34 average	70	76	119	74	72	94	106	86	90	66
1935-39 average	94	95	175	83	106	83	102	97	107	84
1940-44 average	123	119	245	131	159	133	172	143	154	103
1941	97	89	159	107	130	85	129	106	124	94
1942	120	111	252	149	172	114	163	142	159	106
1943	148	147	325	160	190	179	245	183	192	119
1944	165	166	354	164	209	215	212	194	195	115
1944-December	167	160	364	168	215	206	228	196	200	117
1945-January	169	163	365	163	214	205	262	200	201	117
February	169	164	360	161	215	211	223	197	199	116
March	171	166	359	163	215	211	203	196	198	114
April	172	162	362	163	215	221	259	204	203	117
May	172	161	363	165	216	227	193	198	200	116
June	173	162	364	169	217	237	269	210	206	119
July	169	161	364	171	221	237	244	207	206	119
August	167	158	367	172	215	214	240	202	204	118
September	167	157	365	175	213	217	159	191	197	113
October	175	160	373	180	210	219	181	196	199	114
November	178	161	375	182	213	217	235	203	205	117
December	178	162	378	184	213	230	223	206	207	118

<sup>1</sup> Federal Reserve Board, adjusted for seasonal variation, revised November 1943.

<sup>2</sup> Total income adjusted for seasonal variation, revised September 1945.

<sup>3</sup> Bureau of Labor Statistics.

<sup>4</sup> Revised.

<sup>5</sup> Ratio of prices received by farmers to prices paid, interest, and taxes.

<sup>6</sup> 1924 only.

NOTE.—The index numbers of industrial production and of industrial workers' income, shown above, are not comparable in several respects. The production index includes only mining and manufacturing; the income index also includes transportation. The production index is intended to measure volume, whereas the income index is affected by wage rates as well as by time worked. There is usually a time lag between changes in volume of production and workers' income since output can be increased or decreased to some extent without much change in the number of workers.